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ABSTRACT

Federici, Karen, M.S., R.N., Wright State University-Miami Valley College of Nursing and Health, Wright State University, 2004. Fitness and Nutrition for children in the Primary Care Model of patient care in a military pediatric clinic.

Pediatric obesity is rising in epidemic proportions in the United States and the implications cause social, physical, psychosocial, and emotional burdens on the children and their families. The causes of pediatric obesity are multifaceted and the effect on the children can be profound. There is a need for intervention for these children, yet few studies have been done on the available intervention for the obese pediatric patient.

Once the pediatric patient is identified as being obese through the use of the BMI, the patient can then be referred to the appropriate intervention based on the patient and families readiness for change. A literature review was conducted on identification, risk factors, and interventions for pediatric obesity. In addition, a national pediatric weight management program, SHAPEDOWN was examined.

Information regarding the Transtheorhetical Model of Change, and The Health Promotion Model of Health was also reviewed. The program was developed with the Health Promotion Model as the framework. The

finished product is an 8-week fitness and nutrition program for overweight children and their parents. The program will be for the families who are ready to make a commitment to a plan of care and demonstrate a readiness to make lifestyle changes. The program will be implemented in a military pediatric clinic in southwestern Ohio. At conclusion of the program, the outcomes will be compared to the SHAPEDOWN outcomes. An evaluation by the referring providers and the participants will be used to make changes to the program. If the program shows improvement in the child's weight, behaviors, activity and nutrition; the program will then be distributed to other pediatric clinics in the military.

FITNESS AND NUTRITION, AN 8-WEEK PROGRAM FOR OBESE CHILDREN AND THEIR PARENTS

A scholarly project submitted in partial fulfillment
of the requirements for the degree of
Master of Science

By

Karen M. Federici
B.S.N., Medical College of Ohio, 1991

2004
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TABLE OF CONTENTS

I. INTRODUCTION

Pediatric obesity is rising in epidemic proportions in the United States and the implications cause social, physical, psychosocial, and emotional burdens on the children and their families. The causes of pediatric obesity are multifaceted and the effects on the children can be profound. There is a need for intervention for these children; yet, few studies have been done on the available interventions for the obese pediatric patient.

Statement of Research Problem

Despite limited success with the implementation of SHAPEDOWN obesity program for the children in pediatrics at Wright Patterson Air Force Base, a streamlined obesity program is needed. There is a need for an effective obesity intervention program for the children for the pediatric population at Wright Patterson Air Force Base, Ohio.

Purpose

The purpose of this scholarly project was to develop a free obesity intervention program for the obese pediatric patients at Wright-Patterson Air Force Base. The program will be compared against the outcomes of a nationally recognized successful obesity program.

Significance and Justification

The consequences of pediatric obesity can be profound. The National Health and Nutrition Examination Survey (NHANES, 2000) found that obesity kills 300,000 Americans each year and it is the second most common cause of preventable deaths. Following dramatic increases in overweight and obesity among adults in the United States between 1987 and 2000, obesity has reached epidemic proportions; over 45 million adults are obese. Moreover, the epidemic is not limited to adults: the percentage of young people who are overweight has more than doubled in the last 20 years. From 10 to 15 percent of Americans aged 6 to 17 years (eight million young people) are considered overweight. The estimated annual cost of obesity and overweight in the United States is about $117 billion (NHANES, 2000).

The magnitude of the pediatric obesity epidemic and its impact on health and health care costs emphasize both the importance of effective strategies for prevention of the development of new cases of overweight and the need for effective treatment of those who are already overweight. The primary care provider, nurse, or dietitian can play a significant role in obesity intervention provided they are sufficiently motivated and educated to effective obesity intervention strategies. Incorporating the family in the treatment of childhood obesity is essential. The family and child can be assessed on their readiness for change (transtheorhetical model of

change) and the provider, nurse or dietician can then target intervention based on the child and families readiness to change. The provider, nurse or dietician's current practices must first be assessed so that the need for their education on obesity prevention can be established. The current practice at a military pediatric clinic in southwest Ohio is the occasional referral to the SHAPEDOWN program by the primary care provider. The outcomes from the SHPAEDOWN program will be compared to the developed weight management program (Fitness and Nutrition Club) for children.

Project Objectives

1. Explore the current SHAPEDOWN program for obese pediatric patients at WPAFB.
2. Implement the weight management program for the obese children and their families (FAN Club).
3. Evaluate the effectiveness of the program compared to the SHAPEDOWN program at WPAFB.

Definitions

Obesity. An abnormal amount of body fat on a person's body that may put a person at increased health risk. A BMI greater than the 95th percentile based on age and gender growth charts is considered obese.

Body Mass Index. Body Mass Index was used to determine obesity. The Index is the body weight in kilograms divided by the square of the height in meters. The BMI is a person's weight in kilograms divided by the square of the person's height in meters. In 1997, the International Obesity Task Force recommended a standard classification of adult overweight and obesity based on the following BMI calculations: a BMI of 25-29.9 kg per m2 is defined as overweight; a BMI of 30.0 kg per m2 is defines as obesity (Lyznicki et all., 2001). The NHLBI (1998) adopted the classification and further defined overweight and obesity as BMI levels at which adverse health risks increase. The children eligible for participation in the FAN Club must have a BMI > 95%.

Age. The self or parent reported age of participant.

Gender. The self or parent reported sex of the participant: Male or female.

Intervention. Interventions as defined by *Taber's cyclopedic medical dictionary* are taking actions so as to modify an effect (16th ed.). This project uses the term to imply an action by nursing, physician, or dietitian with the aim at reducing the incidence or occurrence of obesity or the increasing of obesity in children.

Limitations

This project is an initial attempt to develop a free weight management program for 8-12 year old obese children and their parents.

1. An actual evaluation of the long term effects of weight loss and improved health risk will not be available.
2. Parents may be limited in their participation, and therefore, the children's benefiting from the program may be limited.

Assumptions

1. The admiration of the very thin body has led to an emergence of widespread prejudice against overweight people in western society.
2. Obesity is unhealthy and will lead to adverse health complications.
3. People would prefer to be of normal weight, and not classified as obese.
4. Family based weight management programs are of greater value than individual counseling for the obese child.
5. The Body Mass Index is an appropriate measure of obesity in children.

Summary

This chapter has reviewed the incidence and prevalence of pediatric obesity while providing significance and justification as to why this scholarly project was necessary. The variables have been identified,

conceptually and operationally. Finally, the limitations and the assumptions of the project have been identified.

This project is aimed toward the development of an obesity program for pediatric patients at a military pediatric clinic in southwest, Ohio. Chapter II reviews the pertinent and current literature regarding pediatric obesity and obesity interventions. Chapter III describes the methods of this project. Chapter IV contains a description of the procedures of this program and the pilot project. Chapter V concludes with a discussion of the conclusions, implications, and recommendations following the implementation of this obesity program to the pilot sample of children.

II. REVIEW OF THE LITERATURE

The focus of this scholarly project is the development of an obesity program for the pediatric population ages 8-12 at Wright-Patterson Air Force Base, Ohio. The program is then compared against the outcomes of a national pediatric obesity program (SHAPEDOWN).

A review of the literature has demonstrated that pediatric obesity is on the rise, and interventions are needed. This literature review involves the concepts of pediatric obesity, current trends, pathophysiology, identification, and interventions for pediatric obesity. The review will also include an explanation of Prochaska's Transtheorhetical Model of Change and describe how it relates to intervening with obese children based on the stage of readiness for change. Finally, a conceptual framework of health promotion developed by Nola Pender will be presented. This model serves as a conceptual model to view pediatric obesity in order to explore behavior change and obesity interventions, and to help to guide protocol for intervening and counseling each unique patient.

Trends in Pediatric Obesity

Reasons for obesity are not always be clear; the causes may include genetic, hormonal, environmental, or a combination of influences.

Although, the prevalence of childhood obesity is estimated to be 25-30 percent, and the prevalence of severe obesity has jumped 98% since the 1960's, only a small percentage of the childhood obesity is associated with a hormonal or genetic defect (Moran, 1999).

Overweight is associated with various risk factors even among children, and it is possible that successful prevention and treatment of obesity in childhood could reduce the adult incidence of cardiovascular disease (Freedman, Dietz, Srinivasan, & Berenson, 1999). The Bogalusa heart study looked at the relation of overweight to cardiovascular risk factors among children and adolescents. This study was community based in Bogalusa, Louisiana, in which cardiovascular disease risk factors in early life were studied. The sample consisted of 9,167 5-17 year-olds examined in seven cross-sectional studies between 1973 and 1994. About 11% of examined schoolchildren were considered overweight. Risk factor prevalence increased greatly at higher levels of the Quetelet index, >95th percentile (cut points derived from several national studies to examine the relation of overweight to adverse risk factor levels and risk factor clustering). Of the 813 overweight children, 585 were found to have at least one risk factor. Furthermore, the use of overweight as a screening tool identified 50% of schoolchildren who had two or more risk factors. There was little difference between boys and girls, but overweight was more strongly related to elevated levels of insulin and diastolic blood

pressure among white than among black children. Of overweight 5-10 year old children, 61% had a risk factor for cardiovascular disease. The statistical analysis included a complex logistic regression model used to categorize risk factors into two groups (high versus not high risk). The associations were summarized using cross-tabulations. Analyses that examined the relation of overweight to various risk factors excluded subjects with values between the 85th and 94th percentile. Risk factors for race, sex, or age were assessed by adding interaction terms to various regression models. A chi^2 distribution was used to examine the two groups. The results indicated that overweight children are at a substantially increased risk for adverse levels of several CVD risk factors. Of the overweight 5-10 year olds, 61% had >1 risk factor, and the comparable positive predictive value among 11-17 year olds was 58%. Furthermore, of the 111 schoolchildren with > 3 risk factors, 82 of them were overweight. This study demonstrated the positive correlation with overweight and increase risk factors for cardiovascular disease.

Identification of Obesity

Obesity is an energy imbalance where the number of calories going in exceeds the body's use of the calories and then stored as fat. Eating patterns of individuals can contribute to over consumption of energy. The weight gain associated with over consumption can be psychologically debilitating. Heavy children can be stigmatized which may harm their

social development and increase the risk of eating disorders (Masui, Sallis, Berry, & Broyles, 2002). The relationship between health beliefs and behaviors and dietary intake in early adolescence was researched by Masui, et al. (2002). The authors used a Health Beliefs and Behaviors Survey (HBS) questionnaire to assess children's health beliefs and behaviors. The HBS was originally developed for the Child and Adolescent Trial for Cardiovascular Health Study to measure psychosocial constructs related to diet, physical activity, and intentions to smoke among elementary school aged children. A cross sectional study using the data from the San Diego Studies of Children's Activities and Nutrition prospective cohort study of 351 children and their families were used for the participants. The subjects were followed at 6 month intervals, and 238 of the 351 participants remained through all 8 measurements. Three dependent variables were derived from a 24-hour food recall including daily energy intake, total fat intake, and percent of energy from fat. The results were analyzed using the Nutrition Data System (NSD). The results from 4 recalls were averaged to reflect the subjects' diets. This study only looked at the nutrition component alone using a Likert scale response. The scores were standardized; 1 for poor health belief and 2-4 for higher or better health belief or behavior. The questionnaire assessed for reliability and validity. Standardized alphas ranged from 0.44 for "Liking healthy foods" to 0.74 for "frequency salt intake". The

questionnaire was tested for construct validity as judged by several independent evaluators. The results found that control of the food environment by the parents is inversely associated with total daily fat intake and percent of energy from fat. Self-efficacy was found to be inversely correlated to percent energy from fat. The application of this study is that children need to be given choice in their dietary environment to learn to make healthy choices for a lifetime. The degree of control that a child is given over his or her food environment is potentially modifiable predictor of their fat and energy intake.

Several limitations to the study were observed. One limitation is that there was a break in the data collection for 2 years due to budgetary constraints which resulted in a loss of 113 subjects. Another limitation is that the survey relies on a self or parent 24-hour recall which may not capture the true essence of the child's diet. The HBS survey does not take in to account gender or ethnicity.

Interventions

It is ever important to identify the child at risk so that interventions can be initiated. Interventions used by pediatric health care providers in the treatment of overweight children were researched by Barlow, Trowbridge, Klish, and Dietz (2001). A random sample of pediatricians, pediatric nurse practitioners, and registered dieticians were mailed a survey that questioned their diet, activity, and medication

recommendations for overweight children and referral to specialists and program practices. The results were examined for adherence to published recommendations and associations with the respondent characteristics. There were 940 respondents with a response rate of 21% of pediatricians, pediatric nurse practitioners (PNP's), and registered dietitians (RD's). The survey found that the majority of providers recommend changes in eating patterns and to limit specific foods for identified obese children and teens. One half of the respondents recommended low fats diets and calorie restrictions for the patients. Two-thirds of the pediatricians and PNP's referred the patients to an RD. Twenty-percent of the patients were referred to a child/adolescent weight program; however, 27-42% of the referrals to specialists or programs were not available. There were no consistent associations found between respondent characteristics and patient adherence to recommended interventions by the provider. The study concluded that the providers generally promoted healthy eating and increased activity with minimal use of highly restrictive diets. However, many of the providers reported that they had no obesity specialist or program available to them for referral of patients: almost all had RD's available to them, indicating that RD's are an important resource for obesity management.

Most of the respondents that completed the survey were found to understand goals of healthy eating and activity. The observations

indicated that the providers do not need more information about what to advise their patients, however, they could benefit from guidance on how to advise families. All three groups surveyed reported a lack of proficiency in counseling skills, and were interested in additional training. The recommendations from the study were to aim research at strategies to motivate families to make and maintain recommended behavioral changes.

This study had several limitations: first, the respondents may have inaccurately reported their behavior, second, they may not recognize and diagnose obesity in their patients, third, there is possible sample bias in the providers who responded may have more of an interest in obesity recommendations for their patients than the providers who did not respond.

Parental Perception of obesity

Although parents are found to be an integral component to changing environments and feeding behaviors within the family, many parents may not perceive their child's weight as obese or even a health risk. A study completed by Meyers and Vargas (2000) looked at parent perceptions and beliefs about childhood obesity and their own child's obesity by means of a parent questionnaire. The objectives of the study was to determine if staff and parent perceptions of the child's obesity were the same, whether the parents were concerned with their child's

excess weight, if the parents believe that excess weight is a risk to the child's physical or emotional health, what steps the parents have taken to slow the weight gain, and lastly what problems parents have faced in trying to slow the child's weight gain. A convenience sample of 200 parents was used. Parents who met the study criteria were identified when visiting WIC or Child Health Services. The children were between the ages of 2 and 5 years and above the 90th percentile for weight and height. A pilot study was done to determine if staff administered the test in a uniform manner. The data collection was then refined and staff retrained for consistency. The results showed a disparity between parent and staff perceptions of the child's obesity. Staff identified a child as obese 81.3 percent of the time compared to 43% on the time parents identified the child as such. Furthermore, parents reported that cardiovascular disease could be a problem later in life but not at current time. Only 3% of parents perceived low self-esteem and difficulty making friends as a concern. Only 3% of parents considered giving less juice, soda, or kool-aid to their children. Only 5% of parents considered increasing their child's activity.

A limitation of the study was that the sample was a convenience sample rather than a random sample: the subjects were those parents visiting a public assistance service. Neither socioeconomic factors nor education level were included in the study.

Nova, Russo, & Sala (2001) compared two types of obesity interventions were compared in a family practice setting in Italy in another study. This was a controlled prospective study in which two different treatment groups were randomized into a routine approach and one in an enhanced approach of weight management. There were 186 children ages 3-12 years enrolled. Obesity was measured using the EID Index, defined as the difference between the child's weight and his or her ideal weight, expressed as a percentage of the ideal weight. Ideal weight is defined as the 50^{th} percentile weight for the age at which the child's height is at the 50^{th} percentile, as calculated from Tanner's tables. A child was defined as obese when higher EID index was 20%. Both groups had a reduction in weight at 6 and 12 month follow up. The measures included compliance to follow up visits and variation in percentage of overweight in each group over 6, 12, and 24 months. The two groups differed in the baseline percentage of overweight. The analysis of the covariance model included baseline overweight values compared to differences in baseline, 6, 12, and 24 month weights. A p value of 0.03 was found using this model. The percentage of weight reduction was significantly greater in the children who were on a diet. The degree of parental commitment correlated to the child's compliance with the diet.

Both groups had a reduction in weight with most weight loss seen in the first months of intervention and then maintained over time. The

study group was smaller and contained children who were more overweight. In the active intervention group, parental commitment proved to be essential for patient compliance with the diet and the related reduction in weight.

The frequency of visits may have contributed to the weight loss. The children who lost more weight had more visits to the provider. The study concluded that the level of provider commitment can greatly influence the success of the intervention.

There were several limitations found in this study. One limitation is cultural: the study was performed in Northern Italy, where obesity is a multifactorial phenomenon with culture, ethical, and social components. Another limitation is that the study did not allow for different environmental conditions. There was a disparity between the baseline weights in the control and the study groups. This may have resulted in a proportionally higher weight loss in the study group. Another factor that was not assessed was the characteristic of the individual provider in relation to the success of their patient's weight loss. Future studies could focus on identifying which particular instrumental aspect of the provider is the most effective for weight loss.

SHAPEDOWN obesity program

SHAPEDOWN is a national pediatric obesity program, developed in the 1979 by researchers at the University California, San Francisco

(UCSF). The program is a family based approach to weight management which has 20 years of documented successes. SHAPEDOWN employs a variety of cognitive, behavioral, affective, and interactional techniques adapted to the needs of adolescents. It uses a self-directed change format, encouraging adolescents to make successive, sustainable, small modifications in diet, exercise, relationships, lifestyle, communications, and attitudes. Very low calorie diets are avoided in the program. Parents are instructed on strategies for supporting their teen, including altering family dietary and activity patterns and improving parenting and communication skills.

Mellin, Slinkard, and Irwin (1987) researched the effectiveness of the adolescent intervention of SHAPEDOWN for 15 months. The authors used a randomized experimental design study. Test groups (n=37) participated in the intervention were compared with no treatment control group (n=29) at four sites in northern California. The study hypothesized that participation in SHAPEDOWN would be associated with reduced relative weight, decreased frequency of obesity-related behavior, improved self-esteem and weight management knowledge, and less depression and that the positive outcomes would not be affected by site. Change in relative weight for the test group was -9.9$\pm$ 14.9% (mean $\pm$ standard deviation) and for the control group was -0.10 $\pm$ 13.2%. At month 15 of the study, weight change in the test group compared with

controls was -5.15kg. Data was analyzed using paired t-tests of the test and the control groups' mean scores at baseline, 3 months, and at baseline and 15 months. The dependent variables were relative weight, obesity-related behavior, self-esteem, depression and knowledge. Paired t-tests were also applied to mean scores at baseline and 6 months for relative weight only. Determination of drop-out rate was based on all test group subjects. Three test group participants were excluded from the analysis of dependent variables and one from the analysis of selected variables and relative weight because of missing data. All of the subgroups examined demonstrated weight loss. However, those in the study group had a significant greater reduction in weight after treatment had stopped.

A limitation of the study may include the small sample size which can limit confidence. Transferability of the research is suggested by the finding since there was not a difference between the four program sites. The drop out rate was 16% for this program; nationally 50% dropout is average for weight loss programs. This may indicate the pre-selection criteria may have been rigorous and not transferable to the general population. The year of this study was 1987 and more current research on causes and treatments of obesity may more applicable to the current year.

Transtheorhetical Model of Change

Changing behaviors is a complex phenomenon and extensively studied in the psychology literature. A conceptual framework that is used frequently in psychology is the use of The Transtheorhetical Model of Change developed by Prochaska in 1979. Geller, Cockrell, & Drab (2001) used the framework to measure readiness and motivation for change in individuals with eating disorders. The investigators used the Readiness and Motivational Interview (RMI) to assess the extent to which individuals are in one of the stages of change developed by Prochaska. Ninety-nine individuals with eating disorders completed the RMI. The RMI profiles revealed differences in readiness and motivation across symptom domains. The RMI scores predicted anticipated difficulty of recovery activities, decision to enroll in an intensive program, and treatment dropout. The RMI may have important clinical applications by providing patient readiness for action treatment. Individuals differ in their readiness to change and consequently a method to assess a patient readiness would allow for a greater understanding of how to tailor treatment to individual needs. The RMI is an interview technique in which the interviewer and client work together to determine readiness and motivation status for each symptom. Although the RMI measures behaviors specific for eating disorders, the finding of the study can be helpful in order to identify an obese pediatric patient's readiness for change. Through identifying the

level of readiness a provider may be better able to determine appropriate intervention action for the individual patient.

Conceptual Framework

Health promotion and disease prevention have been important components of pediatric nursing research and practice during the past 2 decades. Health-promoting interventions are designed to increase the level of well-being of children and families, while primary disease prevention (risk reduction) consists of activities designed to decrease the probability of specific illnesses or dysfunctions in children and families (Pender, Murdaugh & Parsons, 2002). Health promotion theories provide a holistic predictive model of health promoting behavior for use in research and practice. Pender's model is a useful way to conceptualize health behaviors, beliefs, and attitudes of individuals (Figure 1). Incorporating Pender's Health Promotion Model was at the core of the development of the FAN Club at the military pediatric clinic. Pender asserts that the person is the focus of the model where the environment influences the behavior. Health is the optimal state, and the nurse can assist the person toward health. Perceived health status, benefits and barriers are individual to each person, thus, an intervention program needs to address these areas for the individual. Pender also asserts that the commitment to a plan of action is affected by the interpersonal influences including one's family. A commitment to a plan of action will

move an individual toward health promoting behavior. The use of this model as a conceptual framework will be used when implementing the weight management program for the children. The initial assessment will determine if the family is ready to commit to a plan of action for the 8-week program. The nurse as the program manager, will assist the child and the family toward optimal health, while individualizing the program based on the individuals perceived barriers, benefits, self-efficacy, interpersonal influences, and situational influences.

Summary

The knowledge gained from research conducted on childhood obesity has been beneficial in determining the scope of this problem. Pediatric obesity is rising in epidemic proportions. In order to effectively treat the obese child, we must first understand the pathophysiology of obesity. We must then correctly and promptly identify the children who are already obese or at high risk of becoming obese. After assessing the child and the family for the readiness to change the provider will be better able to refer the patient to the right type of intervention. The research has suggested that parents are an integral part of an obesity intervention program for children. It is anticipated that this obesity intervention program will fulfill the need for an effective pediatric obesity intervention for the children and their families at Wright Patterson's pediatric clinic.

The outcomes are expected to be statistically similar or better than a national program for pediatric obesity (SHAPEDOWN).

III. METHODS

The purpose of this scholarly project is to develop an obesity program for children 8-12 years old at a military pediatric clinic in southwest Ohio. Chapter II reviewed the relevant literature on pediatric obesity and identified interventions for childhood obesity. The development of an effective and easily implemented obesity program may reduce the adverse health implications associated with the obesity throughout the lifespan. This chapter contains a description of the setting, population, ethical and legal considerations, procedures, and a summary for this proposed project.

Nature of the Program

The nature of this weight management program is an 8-week weight management program for children and their parents. The program was designed using Prochaska's Transtheorhetical Model of Change and Pender's Model of Health Promotion. The program will be designed with 3 main components: communication, nutrition, and activity. The goal of the program is to increase healthy behaviors, decrease velocity of weight gain, and promote weight loss.

Setting

The setting for the future implementation of the obesity program for children will be in the pediatric clinic located on a military installation is southwest Ohio. The children are family members of active-duty or retired military personnel. This pediatric clinic is the largest in the Department of Defense and serves over 12,000 beneficiaries. The clinic serves a diverse population of children from various ethnic and cultural backgrounds, primarily English speaking.

Population

The target population for this scholarly project is 8-12 year olds with a BMI of >95% for age and gender. The proposed program is designed for the obese child and their parent or parents.

Action Plan

Objective 1: Explore current weight interventions programs.

Action A: Obtain permission for FAN Club implementation from the chief of the pediatric clinic (Appendix A).

Action B: Obtain permission from SHAPEDOWN (Appendix B).

Action C: Review SHAPEDOWN outcomes from previous classes.

Objective 2: Develop 8-week obesity program for kids ages 8-12 (FAN Club).

Action A: Tailor FAN Club program to military population with limited funding and nursing as program manager.

Action B: Advertise FAN Club to providers of upcoming program (Appendix C).

Objective 3: Implement program over 8- week period.

Action A: Interview families for readiness to change (Appendix D).

Action B: Obtain consent from parents and children (Appendix E).

Action C: Enroll the subjects.

Action D: Collect pre-program patient data (Appendix F).

Action E: Collect weekly food and activity logs from participants (Table 1).

Objective 4: Develop an evaluation tool (Appendix G).

Action A: Obtain feedback from parents and children.

Action B: Obtain feedback from referring providers.

Objective 5: Evaluate the outcomes of FAN Club compared to SHAPEDOWN program previously run at clinic.

Action A: Collect post-program data (Appendix F).

Action B: Obtain family and provider feedback via evaluations (Appendix H).

Action C: Make necessary revisions from feedback.

Objective 6: Distribute program to other military institutions.

Budget

The proposed budget was approximately $150 to cover ink cartridges for the printer ($50), paper and handouts ($20), selected fruits and vegetables for 16-20 people on week 6 of program ($50), and gas to and from clinic ($25).

Ethical and Legal Considerations

Permission to implement this program for a selected group of identified overweight pediatric patients and their parents will need to be obtained from the chief of pediatrics (Appendix A). Permission will need to be obtained from SHAPEDOWN as much of the program's content is borrowed from the SHAPEDOWN program model (Appendix B). A mutually agreed upon time between the program educator and the chief of pediatrics will need to be established. The program will then be advertised to referring providers in the pediatric clinic (Appendix C). Informing parents and children in advance of the program initiative will be accomplished. A questionnaire for the children and their parents to assess their readiness to participate in the program will be completed (Appendix D). Informed consent to the nature of program and potential risks will need to be obtained from the parents and the children (Appendix E). Parents and children may not be interested in participation in the program and will therefore, not

participate in the FAN Club program. If a family does not wish to participate, the usual options of consult to dietitian will be offered to the family.

Summary

The pediatric obesity program (FAN Club) developed in this scholarly project is aimed at 8-12 year old children of active duty or retired military members, located in southwestern Ohio. A multi-dimensional approach with child and parental participation is the goal of this project. The weight intervention program includes the assessment of the child and the family's readiness for change prior to enrolling in the FAN club program. The concepts of the class include behavioral, knowledge, nutrition, communication, and activity. A pre-class questionnaire and assessment will be compared to the post-class questionnaire and assessment.

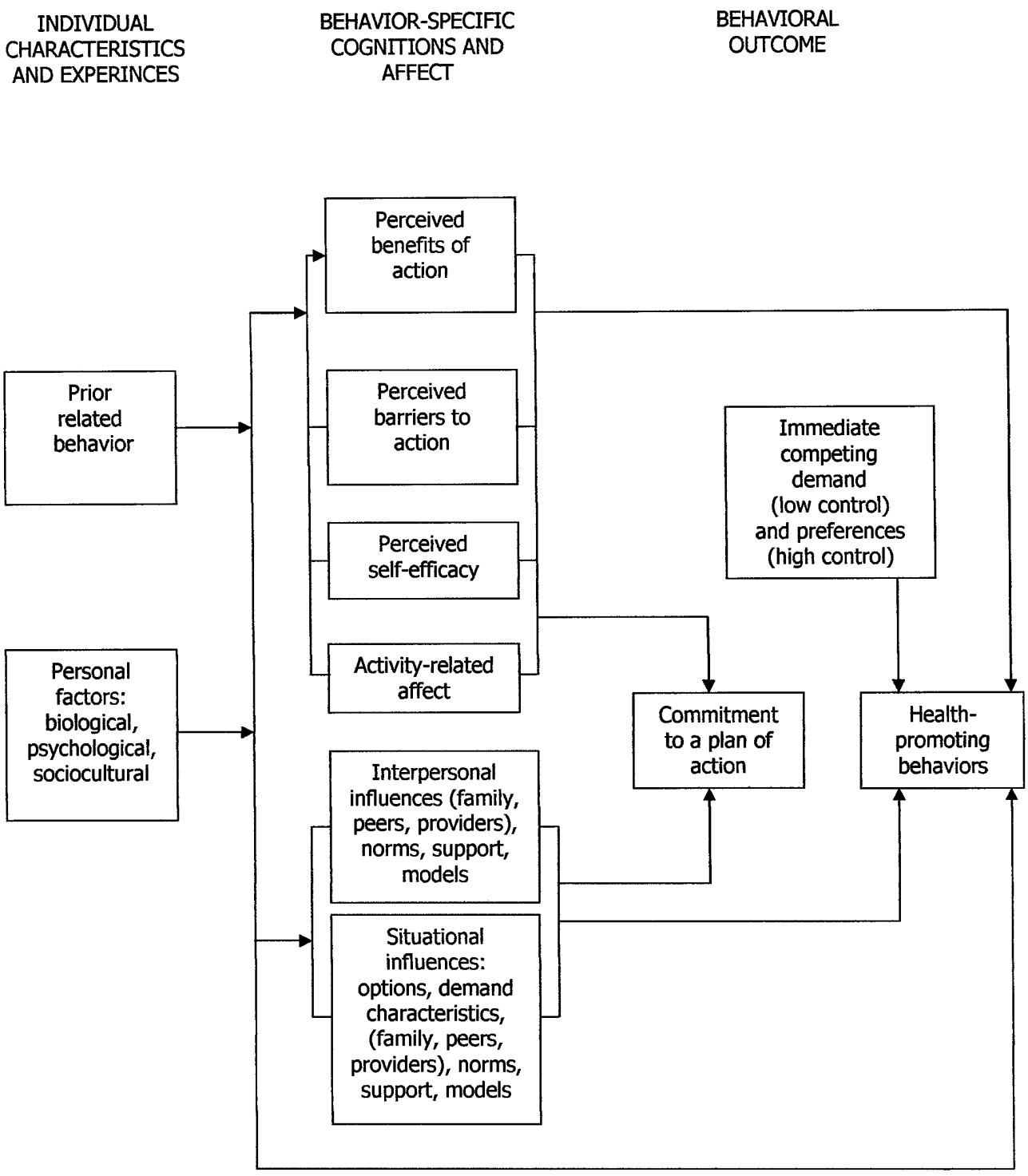

Figure 1. Nola Pender's Health Promotion Model. Health promotion in nursing practice (3rd ed). p. 67. Stamford, CT: Appleton & Lange.

Wright Patterson Air Force Base
Pediatric Clinic

Dear Parents,

You and your child are invited to participate in a weight management program for children and their parents titled, "Fitness and Nutrition (FAN) Club", for overweight children. I am a graduate nursing-student at Wright State University in Dayton, Ohio. I am interested in implementing an effective, free, program for overweight children and their parents.

PUPROSE

The SHAPEDOWN class in a nationally recognized weight management program for children. The program has years of positive outcomes for the children. However, implementation of the program is difficult do to the expense in training, staff commitment of multiple disciplines involved, and the cost of the program. The FAN club is also a weight management program that is similar to SHAPEDOWN but does have some differences. The program will be run by two SHAPEDOWN trained nurses, the program will be shorter, arranged slightly different and is of no cost to you.

The purpose of the FAN club is to provide effective, free classes to those families who are ready to make some changes in their lives with the goal of increased health behaviors for your child and your family.

PROCEDURE

The FAN club is an 8-week program. This is not a weight loss program; rather it is a behavioral program that supports improvement in communication, activity, and nutrition. Weight is not the only indicator of health; therefore, I will monitor the progress of your child through assessment of physical activity, food logs, strength and weight. The assessment at the beginning of the class will include weight, BP, Ht, 24-hour diet recall, 24-hour physical activity recall, and sit-up and step test for heart rate. This assessment will also be reaccomplished at the end of the class.

POTENTIAL RISK /BENEFITS

The potential risk of being in the program may include stress for your child and your family. We are asking that you implement changes in your life for you and your child. Change can take time and it can be stressful. It is possible that the program will help you to make some changes in your life that result in positive health outcomes for your child and your family.

CONFIDENTIALITY

Each survey that you complete will be given a code number. Your child's name will not be placed on any survey or report generated from this study. Your child's provider and the two nurses are the only one's who will see the information on your child.

VOLUNTARY PARTICIPATION

You are voluntarily agreeing to participate in the FAN program. If do not wish to participate or wish to withdrawal from the program at any time, you are free to do so. Withdrawal from the program will not result in loss of care your child is entitled to. You will not receive money for participating in the program.

COST TO PARTICIPATE

There is no cost for you to participate in the study. It is a time commitment of 8 weeks.

CONSENT

Your signature below indicates that you have read all of the above information, received answers concerning areas you do not understand and are willing to give your consent for participation in this study. If you agree to participate, you will be given a copy of the consent form.

PROGRAM DIRECOR
Karen M. Federici, BSN, RN
Wright Patterson Air Force Base Pediatrics
Dayton, Ohio 45433
(937) 426-6119

FACULTY ADVISOR
Donna M. Curry, PhD, RN
College of Nursing and Health
Wright State University
Dayton, Ohio 45435
(937) 775-2576Authorization to participate in FAN club program

Parent Signature_____ Date: _____

Child Signature_____ Date:_____

Program Directors Signature_____ Date:_____

FAN CLUB

FAN CLUB is a family-based child and teen weight program developed based on SHAPEDOWN objectives of weight management for children. SHAPEDOWN is considered the nation's leading weight program for young people and has been recognized as an exemplary program by the American Medical Association.

Two nurses with training in SHAPEDOWN initiatives will deliver the FAN Club program for pediatric patients age 8-12 with a BMI >95%.

FAN club is a family-based program because scientific studies show weight loss is maintained ten years later when a *weight program includes the family.* The FAN club gives training, structure, and nurturing to the child and family. The participants are in classes with others their age (children 8-12 year olds) to provide encouragement and support. The parents receive support from other parents. Family's work together to improve communication, increase activity, and eat in a healthy way.

FAN Club is an 8-week evening program, which requires a commitment from the child and their parents. The groups meet once a week.

The schedule is as follows:

Thursday evenings 1800-1930
11 Sep 03 - 6 Nov 01

If you have patients who are motivated and interested in the program, send a consult to CASE to enroll in the FAN Club program. Please clear the child for physical exercise and obtain a baseline lipid panel, TSH, and fasting blood sugar. We will be doing fitness assessments on the participants and their parents.

Please address questions to Capt Karen Federici at 426-6119.

DEPARTMENT OF THE AIR FORCE
Air Force Material Command

7 Mar 03

MEMORANDUM FOR DR. MOIRA PFIEFER

FROM: Capt Karen M. Federici

SUBJECT: Implementation of FAN Club

Dr. Pfeifer,

I would like to offer a weight management class to overweight children ages 8-12 years old in the pediatric clinic. I have spoken with the nurse who ran the SHAPEDOWN class in the past at your clinic and she is willing to help initiate this class.

The nurse explained some of the difficulties with the implementation of the SHPAPEDOWN class. The goal of this program is to improve on the current SHAPEDOWN class by tailoring it specifically for the population of your clinic.

The class will be free; any materials will be paid for by me. I will obtain permission from SHAPEDOWN since the program is borrowed from their framework. I will also obtain permission from the parents and the children for participation.

I will send out a letter to your providers and inform them on FAN club principals and referral procedures. The families will be assessed for their readiness to change prior to enrolling in the class. If the families are not interested in the class, they will be referred back to the provider so that traditional management can occur.

I will obtain data including physical, behavioral, and nutritional prior to class and at the end of the class. The outcomes will be then compared to the SHAPEDOWN outcomes of your clinic. I will report the outcomes to you.

I welcome any feedback from you or your providers. I want to thank you for consideration.

KAREN M.FEDERICI, Capt, USAF, NC
Graduate Student, CONH
Wright State University

FAN Club PROGRESS NOTE – Child and Family Weight Management Program

Expected Outcome	Intervention = self-management training								Goal reached (Check indicated if goal reached)								
Date Session		1	2	3	4	5	6	7	8	Assessment _____	1 ____	2 ____	3 ____	4 ____	5 ____	6 ____	7 ____	8 _____
Clinical Outcomes:										Lab Date								Lab Date
◆ Cholesterol										_____								_____
◆ Triglycerides										_____								_____
◆ LDL-C										_____								_____
◆ HDL-C										_____								_____
										_____								_____
◆ Blood Pressure										____/___								____/___
◆ Height & Weight										Ht: ___								Ht: ___
◆ BMI										_____lb								_____lb
◆ 2 min sit-up test										___ kg/m2								____kg/m2
◆ 2 min step-test										___sit-ups								___sit-ups
										____beats per min								____beats per min
Behavioral Outcomes:																		
Behavior Modification																		
- Complete "Strokes" homework		√	√	√	√	√	√	√	√									
- Complete food logs		√	√	√	√	√	√	√	√									
- Use hunger/fullness cues				√	√	√	√	√	√									
Nutrition																		
- Consume three meals per day			√	√	√	√	√	√	√	____meals/ day								____meals/ day
- Choose light, whole grain breads and cereals			√	√	√	√	√	√	√	_____sv								_____sv
- Consume 5 sv of fruits and vegetables per day			√	√	√	√	√	√	√	_____sv								_____sv
- Choose lean meats			√	√	√	√	√	√	√	_____								_____
- Limit use of added fats			√	√	√	√	√	√	√	_____								_____
- Limit intake of sweetened beverages			√	√	√	√	√	√	√	_____oz/d								_____oz/d
- Choose healthy cooking methods			√	√	√	√	√	√	√	_____								_____
Fitness																		
- Increase time particpating in daily lifestyle activity			√	√	√	√	√	√	√	_____min/d								_____min/d
- Increase time participating in structured aerobic exercise			√	√	√	√	√	√	√	_____min/d								_____min/d
- Decrease time participating in sedentary activites (TV, videos)			√	√	√	√	√	√	√	_____min/d								_____min/d
Communication																		
- Increase family time			√	√	√	√	√	√	√									
Overall Compliance Potential																		
Comprehension										G P	G P	G P	G P	G P	G P	G P	G P	G P
Receptivity										G P	G P	G P	G P	G P	G P	G P	G P	G P

G (Good) – participates in class, shows interest in class, can verbalize and/or demonstrate some goals of class
P (Poor) – does not appear interested in class, little participation in class, does not appear to demonstrate or understand goals of class

RECORDS MAINTAINED AT:		
PATIENT'S NAME: (Last,First MI)		**SEX**
RELATIONSHIP TO SPONSOR	**STATUS**	**RANK/GRADE**
SPONSOR'S NAME		**ORG**
DEPT/SERVICE	**SSN/ID NO.**	**DOB**

Class #1/Assessment appointment: Pt enrolled in FAN Club – a weight management program for children and their families. Pt completed an initial assessment package. Results noted on front of this form. Other significant issues noted: _____.
Materials for class include the FAN Club instruction guide and various applicable local handouts.
Barriers to learning were assessed including appropriateness of participation in a classroom environment.

_____
Signature/Date

_____
Signature/Date

Pt and family attended / did not attend class #1.

Pt and family attended / did not attend class #2.

Pt and family attended / did not attend class #3.

Pt and family attended / did not attend class #4

Pt and family attended / did not attend class #5

Pt and family attended / did not attend class #6.

Pt and family attended / did not attend class #7.

Pt and family attended / did not attend class #8. Re-assessment accomplished. Results noted on front of form.
Follow-up: _____.

_____
Signature/Date

_____
Signature/Date

Class Content	Week 1	week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Clinical Measurements	Lab Date _____							Lab Date _____
Cholesterol		x	x	x	x	x	x	
Triglycerides		x	x	x	x	x	x	
LDL		x	x	x	x	x	x	
HDL		x	x	x	x	x	x	
Blood Pressure		x	x	x	x	x	x	
Height		x	x	x	x	x	x	
Weight		x	x		x	x	x	
BMI		x	x	x	x	x	x	
2 minute sit up		x	x	x	x	x	x	
2 minute step test		x	x	x	x	x	x	
Behavioral Outcomes								
Completes Homework	x							
Compleetes Foodlog	x							
Uses Hunger Scale	x	x	x					
Nutrition								
3 meals per day								
Choose light grains								
5 servings fruit & Vegetables								
Choose lean meats								
Limit use of added fats								
Limit intake of sweetened beverages								
Use of healthy cooking method								
Fitness								
Increase minutes of daily lifestyle activity								
Increase minutes in structured aeerobic activity								
Decrease minutes of sedentary activity (TV and Video games)								
Communication								
Increase family time								
Increase family meals together								

FAN OBJECTIVES

THRESHOLD FOR EVALUATION: FAN club participants who attend at least 50% of the classes

Physical Outcomes
Weight: Maintain weight or weight loss
Physical Strength: Improvement
Cardiovascular Strength: Improvement

Behavioral Outcomes
Activity: Sedentary activity (TV/ video games) limit TV viewing to 2 hours per weekday and 3 hours on the week-end
Structured Activities: Increase time spent in active daily activities
Nutrition: Sweetened beverage intake-limit intake to less than 16 oz per day.(Includes juices, Kool-Aid, soda)
Increase servings of fruits and vegetables per day

Patron feedback Achieve a 3.5 or better on the patient evaluation

EVALUATION: At conclusion of class, determine outcomes for FAN club participants who attend at least 50% of the classes. If the threshold for evaluation is not met, document the problem, conclusions, recommendations/action taken and follow-up.

Improvement initiatives: Behavioral outcomes will be tracked with food and activity log (as listed above).

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